

### **Abstract of the Disclosure**

The present invention relates to inductors with improved inductance and quality factor. In one embodiment, a magnetic thin film inductor is disclosed. In this embodiment, magnetic thin film inductor includes a plurality of elongated conducting regions and magnetic material. The plurality of elongated conducting regions are positioned parallel with each other and at a predetermined spaced distance apart from each other. The magnetic material encases the plurality of conducting regions, wherein when currents are applied to the conductors, current paths in each of the conductors cause the currents to generally flow in the same direction thereby enhancing mutual inductance.